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(19) (CA) **APPLICATION FOR CANADIAN PATENT** (12)

(54) **Fire Hose Container**

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(71) **Same as inventor**

(57) **17 Claims**

Notice: This application is as filed and may therefore contain an incomplete specification.



Industrie Canada Industry Canada

Canada

ABSTRACT OF THE DISCLOSURE

A container for storing, transporting and unloading fire hose in high rise apartment or open area fires comprises top, bottom, front, back and side panels, which can be made to lie in a single plane when the container is fully opened, or to form a rectangular compartment with parallel opposite sides when the container is closed. When the top and front panels are opened, the bottom, back and side panels form a trough, in which to load the fire hose. The top and front panels employ hook and loop fasteners to open and close them. A shoulder strap attached to tabs on a bottom panel passes freely through a tunnel guide strap on each side panel. The shoulder strap has a contoured cushioned pad. The top panel flap has projections for easy opening. The panels have a foam insert and lines sewn for rigidity. A reflective extension flag, through whose loop the fire hose passes, can be used to extend the accordion folded fire hose. The container efficiently stores, transports and unloads fire hose in all visibility conditions without generating hose spirals and kinks.

FIELD OF INVENTION

The present invention relates to a container for storing, transporting and unloading fire hose.

BACKGROUND OF THE INVENTION

Effective firefighting requires efficiently storing, transporting and unloading fire hose in a variety of fire situations so that it is free of kinks and spirals, in order to avoid diminished nozzle pressure upon charging. One such situation involves a high rise apartment fire where firefighters commonly must operate in poor or no visibility.

Two types of devices for storing, transporting and unloading fire hose in this situation, are known in the prior art. One comprises a canvas bag with a flap closure equipped with a clasp which is secured to a ring on the bag's body. To load the bag, the fire hose is laid flat on the ground along side itself in two equal lengths. Beginning at the mid point of the fire hose, a double doughnut is created by rolling the hose upon itself. The doughnut is then strapped, placed in the bag, and the clasp fastened. A second device known comprises a straight plastic strap attached to which are three perpendicular straps. To load this device, the fire hose is

accordion loaded in one or two columns rising from the ground and then bound by the three perpendicular straps, which are wrapped around the fire hose and fastened to their opposite ends.

The clasp mechanism on the bag is difficult to open. After removing the doughnut and locating and releasing the strap, the nozzle and the female coupling must be found at an unknown location on the doughnut's circumference. The doughnut's unrolling, often taking several attempts, invariably creates hose spirals which must be found and cleared before charging.

The strap is awkward to carry because of its size and does not protect the fire hose while stored. At the stand pipe cabinet, the ends of the perpendicular straps must be located and the fasteners released.

The nozzle and the female coupling must be located at an unknown position. All of these procedures, required by using the bag or the strap, are even more difficult and time consuming in poor or no visibility conditions.

A second common situation where efficiently storing, transporting and

unloading fire hose is required involves a fire in an open area. One example would be a highway vehicle fire. Devices for this situation are not known in the prior art. Fire hose, stored in a tiered accordion load, is dragged off the fire truck and extended manually prior to charging. This sometimes results in more than one tier falling to the ground with the result that the fire hose becomes tangled.

SUMMARY OF THE INVENTION

1. An object of the present invention is to efficiently store, transport and unload fire hose for use at high rise apartment and open area fires.
2. A further object is to unload fire hose under poor or no visibility conditions by eliminating unknowns such as nozzle, female coupling or fastener locations.
3. A further object is to store, transport and unload fire hose so that hose spirals and kinks are avoided in the interests of optimum nozzle pressure.
4. A further object is to provide a container which is simple and easy to use.

The invention consists of a container for efficiently storing, transporting and unloading fire hose. The container comprises top, bottom, front, back, and side panels. When the top and front panels are opened, the back, bottom, and side panels form a trough. The panels, when the container is fully opened, can be made to lie in a single plane. When the container is fully closed the panels form a rectangular compartment. The top and front panels employ a reusable closure means. The container has a means for carrying it. There is a means for manually extending the fire hose from the container. The panels may be made from a double layer of material.

The panels may be integral to one another. The side, top, bottom, front and back panels contain a foam insert and are sewn into small compartments to achieve a semi-rigid quality. The flaps integral with the side and top panel and projections on the top panel flap contain a foam insert to resist deformation. The fabric may be fire resistant, water resistant and rot and mildew resistant. The means for carrying the container may be a shoulder strap anchored to tabs extending from the ends of the bottom panel. The shoulder strap passes freely through a tunnel guide strap anchored to each side panel and parallel to the shoulder strap. The tunnel guide strap may be parallel to or at a slight angle with the side panel's long edge. Alternatively to the tunnel guide

strap on each side panel there may be cross straps perpendicular to or at a slight angle with the side panel's long edge. The shoulder strap may have a contoured cushioned pad. The method of anchoring the shoulder strap to the bottom panel tabs and the tunnel guide straps to the side panels may be rivets or stitching. The reusable closure means for the top and front panels is a *Velcro fastener. The underside of the top panel may have attachments through which a hand may freely pass. The back panel may have wear resistant skid strips.

SUMMARY OF DRAWINGS

The invention as exemplified by a preferred embodiment is described with reference to the drawings in which:

Figure 1 is a perspective view of the container while closed and resting on its bottom panel.

Figure 2 is a top view of the container when fully opened and lying in a single plane.

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Figure 3 is a side view of the container when opened with the top panel, side panel and tab extending from the bottom panel, not having been made to lie in a single plane.

Figure 4 is a cross section of a double layer panel with a foam insert.

Figure 5 is a perspective view of the reflective extension flag.

Figure 6 is an internal view of the container loaded with fire hose.

DETAILED DESCRIPTION

Referring to the drawings, the preferred embodiment of the invention, a container for storing, transporting and unloading fire hose, is shown in Figures 1, 2 and 3.

As shown in Figure 2, the container comprises panels 12, 14, 16, 18, 20 and 22 integral to one another. The panels 12, 14, 16, 18, 20 and 22 are defined by stitching along their abutting edges, 24, 26, 28, 30 and 32. As shown in Figure 4, panels 12, 14, 16, 18 and 22 are made semi-rigid by means of a foam insert 33. The panels 12, 14, 16, 18, 20 and 22 also have lines sewn 35 for rigidity. Integral with the top panel 22 is a flap 34. The

flap 34 has a foam insert 33. Projections 36 and 38 on the flap 34 contain a foam insert 33 and provide an easy means of grabbing the flap 32 for the purpose of opening the top panel 22. Attached to the flap 34 on the inside, adjacent to its edge, is a strip of *Velcro fastener 40. When the container is closed as is shown in Figure 1, the strip of *Velcro fastener 40 on the flap 34 is secured to a strip of *Velcro fastener 42 on the outside of the back panel 14, adjacent to its edge. The selection of *Velcro fasteners 40 and 42 must be such that the back panel 14 will not fasten to a carpeted surface when the container is resting on its back panel 14 as shown in Figure 2 and 3.

Attached to the inside of the front panel 20 as shown in Figure 2, adjacent to its edges, are strips of *Velcro fasteners 44 and 46. Attached to the flaps 48 and 50 integral with the side panels 12 and 16 are strips of *Velcro fasteners 52 and 54. The flaps 48 and 50 have a foam insert 33. When the container is resting on its back panel as shown in Figure 3, the strips of *Velcro fasteners 52 and 54 face upwards. Accordingly, when the container is closed the *Velcro fasteners 44 and 46 on the front panel 20 are secured to the *Velcro fasteners 52 and 54, on the flaps 48 and 50.

***Trademark**

As shown in Figure 2, when the container is fully opened and resting on its back panel 14, it can be made to lie in a single plane. As shown in Figure 1, the container when closed, forms a rectangular compartment with parallel opposite sides. As shown in Figure 1, attached to the tabs 56 and 58 at the ends of the bottom panel 18 is a shoulder strap 60 for carrying the container. The shoulder strap 60 is attached to the tabs 56 and 58 by stitching. The force created by the mass of the container and the fire hose contained therein is transmitted directly to the shoulder strap 60. Attached to the outside of each side panel 12 and 16 is a tunnel guide strap 62, parallel to the shoulder strap and to the long edge of the side panel. In the alternative, the tunnel guide strap may be positioned so that it is at an angle with the long edge of the side panel. The tunnel guide strap 62 is attached by means of stitching and is positioned down from the side panel 16 short edge. The shoulder strap 60 passes freely through the tunnel guide strap 62. The shoulder strap has a hard insert between a second layer of material 68 in the area of the tunnel guide strap 62. These two aspects of the container allow it to lie flat when it is opened as shown in Figures 2 and 3. In the alternative, the shoulder strap 60 may pass freely through cross straps attached to each side panel and perpendicular to or at a slight angle with the side panel's long edge. Attached to the shoulder strap 60 is a contoured cushioned pad 66. The container may be made of fabric, preferably

fabric which is fire resistant, water resistant and rot and mildew resistant. As shown in Figure 5, an extension flag 78, through whose loop the fire hose passes, bears a reflective strip 80 on both sides and has a hard insert for rigidity. Reflective tape is also stitched to the back panel 14, the top panel flap 34, and the tunnel guide strap 62. Anchored to the underside of the top panel 22 may be an attachment for grasping. Attached to the outside of the back panel 14 may be wear resistant skid strips.

To load the container it is positioned as shown in Figure 3. The front panel 20 is secured for a short distance to the flaps 48 and 50 integral with the side panels 12 and 16 so that bottom panel 18, back panel 14 and side panels 12, 16 form a trough. This is facilitated by the semi-rigid quality of these panels. While facing the trough and kneeling on the top panel 22 at the base of the back panel, the midpoint of the fire hose is located and the extension flag 78, is placed at this point. The half length of the fire hose with the nozzle end, beginning in the right corner of the trough, is then made into an accordion tier which rests on the back panel 14. As shown in Figure 6, the half length of the fire hose with the female coupling is then made into a second accordion tier which rests on top of the first. The extension flag 78, is positioned on top of the second tier. Its head is folded 90 degrees and inserted in between the

-10-

accordion folds. When the container is closed, the nozzle and the female coupling will be located next to the top panel 22 with the nozzle closest to the back panel 14 and the female coupling closest to the front panel 20.

In a high rise apartment fire the container is placed on its bottom 18 with the front panel facing the firefighter. The shoulder strap 60 is allowed to fall against the outside of the back panel 14 . The flap 34 is released from the back panel 14 by grasping the projections 36 and 38, and pulling open the top panel 22. The female coupling is given to a firefighter working the standpipe cabinet for connection to the water supply. The container is made to rest on its back panel 14. The front panel 20 is fully opened so that the container lies flat as shown in Figure 2. The extension flag is used to extend the hose down the hallway.

The container efficiently stores, transports , protects, and unloads fire hose for use at high rise apartment and open area fires. The firefighter always knows the nozzle and female coupling locations. The opening means for the container is simple and easy. These advantages persist even in poor or no visibility conditions. The container also avoids the possibility of generating hose spirals and kinks. The container is simply and easily loaded and contains the hose in a neat, compact and comfortably portable manner.

-11-

Although only a single embodiment of the present invention has been detailed and illustrated, the present invention is not limited to the features of the embodiment but includes all variations and modifications within the scope of the claims and the spirit of the invention.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A container for storing, transporting and unloading fire hose comprising: top, bottom, front, back and side panels which, when the container is closed, form a compartment, and which, when the top and front panels are opened, the back, bottom and side panels form a trough; a reusable closure means for the container's top and front panels; and a means for carrying the container.
2. A container as claimed in Claim 1, wherein when the container is fully opened, the panels can be made to lie in a single plane.
3. A container as claimed in Claim 2, wherein the reusable closure means for the top and front panels comprise *Velcro fasteners.
4. A container as claimed in Claims 1,2 or 3, wherein the means for carrying the container comprise a shoulder strap anchored to tabs extending from the ends of the bottom panel and sliding freely within a tunnel guide strap anchored to each side panel, parallel to the shoulder strap and parallel to or at an angle with the long edge of the side panel.

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5. A container as claimed in Claim 4, wherein the shoulder strap is equipped with a contoured cushioned pad.
6. A container as claimed in Claim 1, 2, 3 or 5, wherein anchored to the underside of the top panel is an attachment through which a hand can freely pass.
7. A container as claimed in Claim 1, 2, 3 or 5, wherein there is a means for manually extending the fire hose from the container.
8. A container as claimed in Claim 7, wherein the means for extending the fire hose from the container comprise a reflective extension flag which has a loop through which the hose passes and which has a hard insert
9. A container as claimed in Claims 1, 2, 3, 5 or 8, wherein the back panel is equipped with a plurality of wear resistant, fabric skid strips.
10. A container as claimed in Claims 1, 2, 3, 5 or 8, wherein the panels are integral to one another.
11. A container as claimed in Claims 1, 2, 3, 5 or 8, wherein the panels are made from a double layer of material.
12. A container as claimed in Claim 11, wherein the material is fabric

which is fire resistant, water resistant and rot and mildew resistant.

13. A container as claimed in Claims 1, 2, 3, 5, 8 or 12, wherein the panels, are made semi-rigid by means comprising a foam insert and lines sewn.

14. A container as claimed in Claims 1, 2, 3, 5, 8 or 12, wherein the compartment is rectangular.

15. A container as claimed in Claim 1, 2, 3, 5, 8 or 12, wherein the means for carrying the container comprise a shoulder strap anchored to tabs extending from the ends of the bottom panel, and passing freely through a plurality of cross straps anchored to each side panel and perpendicular to or at an angle with the long edge of the side panel.

16. A container as claimed in Claim 1, 2, 3, 5, 8 or 12, wherein attached to the top panel is a flap which has projections on its ends, which extend beyond the side panels when the container is closed.

17. A container for storing, transporting and unloading fire hose comprising top, bottom, front, back and side panels which can be closed, the back, bottom, and side panels forming a trough when the top and front panels are opened, the panels lying in a single plane when the

container is fully opened, *Velcro fasteners providing a reusable closure means for the top and front panels, a contoured cushioned shoulder strap anchored to tabs extending from the ends of the bottom panel and sliding freely through a tunnel guide strap anchored to each side panel and parallel to the shoulder strap and the side panel's long edge, the panels made from a double layer of fabric with a foam insert and lines sewn for rigidity.

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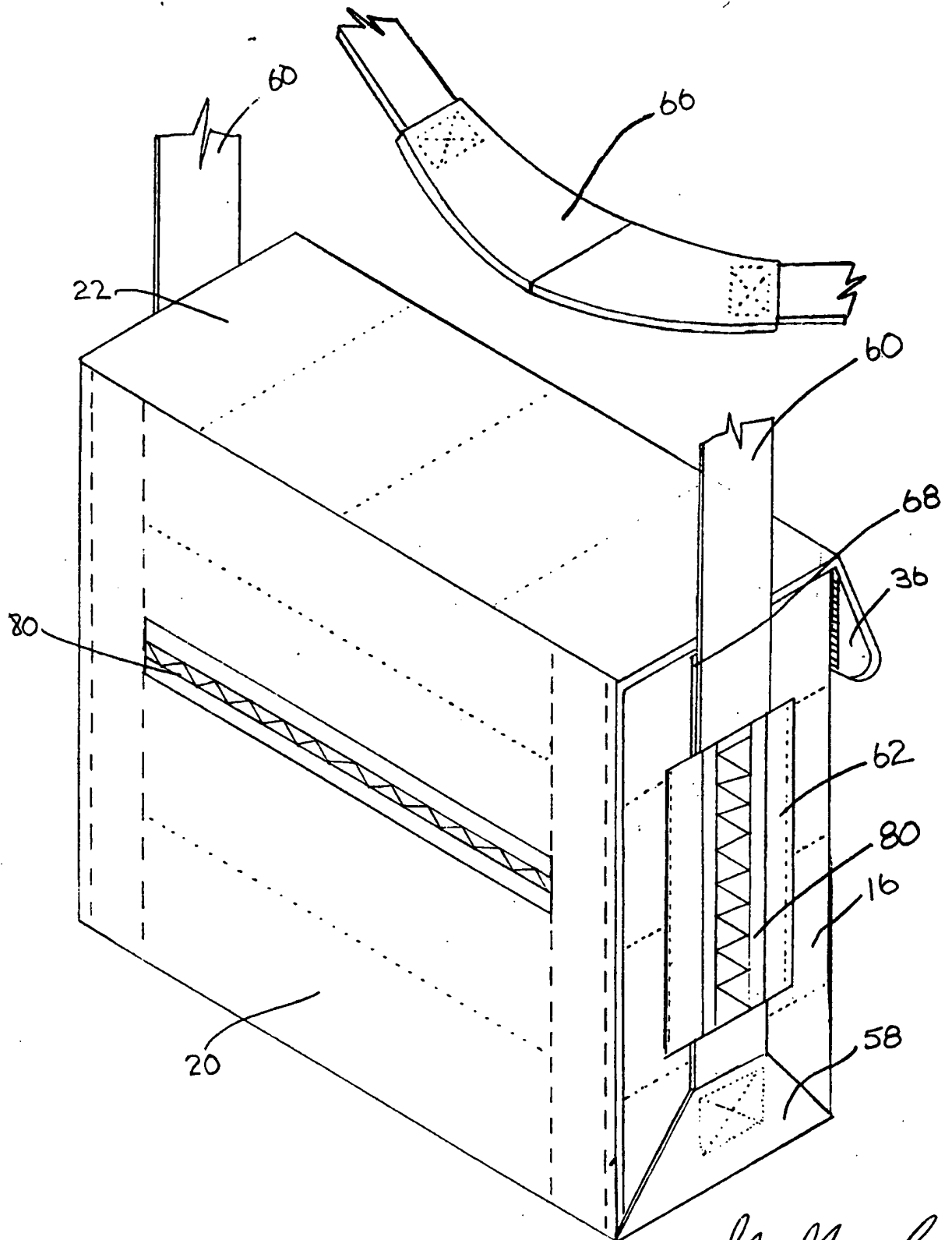


FIGURE 1

DRN. BY *Gay & Arnold*

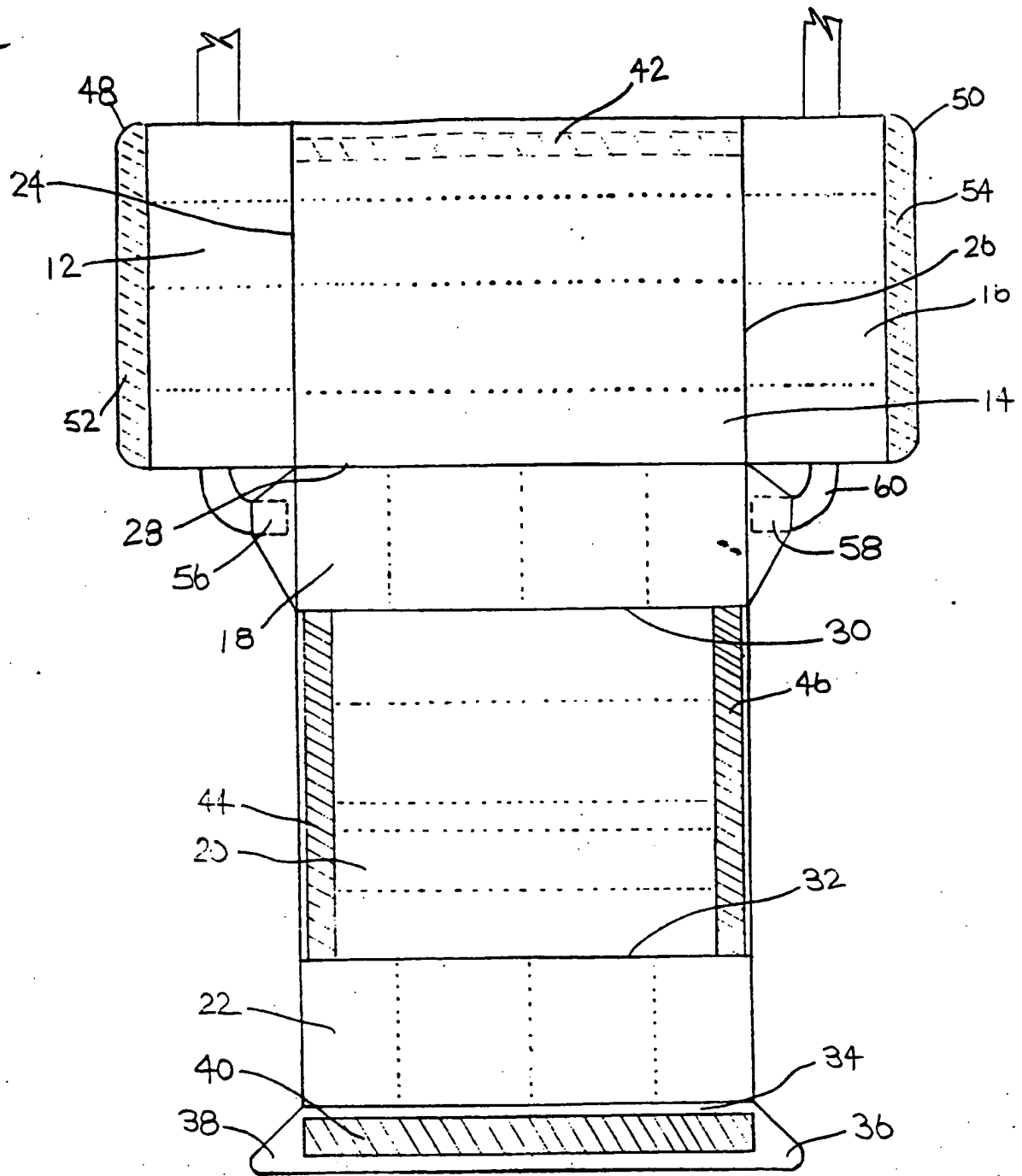


FIGURE 2

DRN BY *Hyatt*
Hyatt

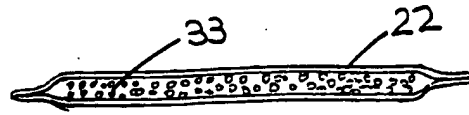


FIGURE 4

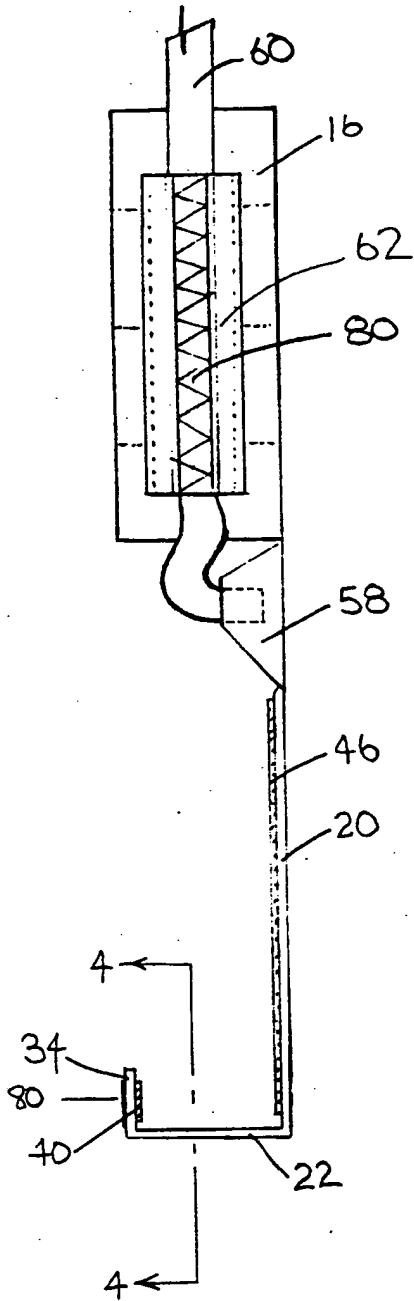


FIGURE 3

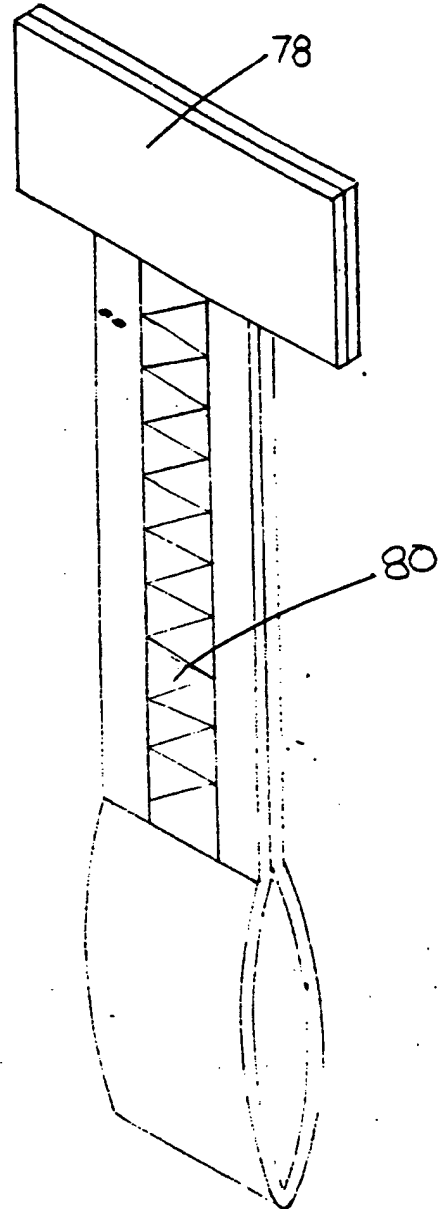


FIGURE 5

DRN. BY *Chuy Spral*
Chuy Spral

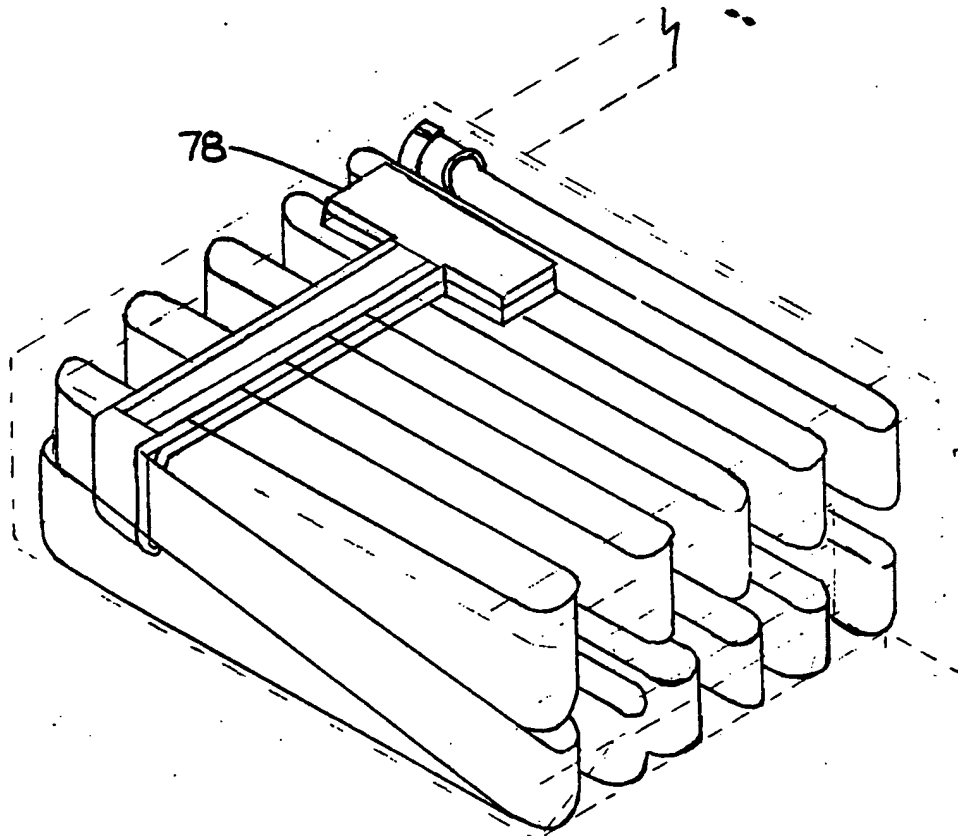


FIGURE 6

Chapman
DRN BY *Chapman*